

REMARKS

Reconsideration of this application in light of the present amendment and remarks is respectfully requested.

Claims 1-21 have been rejected.

Claims 10 and 17 have been canceled, without prejudice.

Claims 1, 3, 6-9, 13-16 and 20-21 have been amended.

Claims 1-9, 11-16 and 18-21 are pending in this application.

Claims 1 and 4-7 have been rejected under 35 U.S.C. §102(b) as being anticipated by Bernstein et al. (U.S. Pat. No. 5,349,855), hereinafter Bernstein. This rejection is respectfully traversed.

Independent claim 1 (and 6-7) has been amended to reflect that the flexible springs in the perpendicular vibratory directions are tuned such that the drive frequency and the sense frequency are closely aligned. This is supported in the specification on page 12, lines 6-12. A portion of claim 1 has been removed to claim 3. In particular, claim 1 has been amended to provide a substrate; a pair of proof masses that are attached to the substrate at fixed anchor points, the pair of proof masses suspended above the substrate; and a set of drive beams positioned between the proof masses and the anchor points, the drive beams having a first body portion that includes a first flexible spring member that extends along a first direction and a second body portion that includes a flexible spring member that extends along a second direction, the second direction being perpendicular to the first direction, the first and second flexible spring members being configured such that a drive frequency and a sense frequency of the proof masses are substantially aligned. The combination of recitations in claim 1 are not disclosed or suggested in any of the cited references.

Applicant's invention of claim 1 provides a solution to a designer's problem of reducing interference effects from various vibrational modes, by aligning the drive and sense frequencies to mitigate detection of these other modes that might otherwise have aligned themselves with one or the other of the drive or sense frequencies.

Bernstein discloses the driving of proof masses along one direction of a plane and the sensing of vibrations of the proof masses outside of the plane. Bernstein does not discuss the vibration of the proof masses in a second direction within the plane, and therefore does not recognize the problems that can arise from the various frequencies modes that can be generated in this direction. Therefore, Bernstein could not suggest or envision applicant's solution to tune

the drive frequency and sense frequency to be closely aligned to avoid problems with the frequency responses of those modes of vibration in the second direction within the plane.

As a result, applicant respectfully submits that amended claim 1 is deemed patentably distinct and nonobvious from Bernstein.

Dependent claims 6 and 7 have also been amended to reflect the alignment of the drive and sense frequencies, as detailed with respect to claim 1 above, and are all deemed allowable as well for the same reason. Moreover, claims 4 and 5 are dependent on claim 1, and therefore include all of the recitations of claim 1, which are not disclosed or suggested by the references. Therefore, claims 4 and 5 are deemed allowable as well for the same reasons.

Accordingly, applicant's amended independent claims 1 and 5-7 are deemed patentably distinct and nonobvious from Bernstein.

Therefore, applicant respectfully requests that this rejection be withdrawn.

Claims 2, 3 and 8-21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bernstein et al. (U.S. Pat. No. 5,349,855), hereinafter Bernstein. This rejection is respectfully traversed.

Independent claims 8 and 15 has been amended to have the same recitations of claim 1, hereby incorporated by reference, and also to include that the spring members are configured such that the drive and sense frequencies are different from the unwanted vibrational modes in the second direction in the plane. Support for this can be found in FIGs. 9 and 10 and on page 10, line 20 to page 11, line 2 and lines 14-25, and page 12, lines 8-9.

Applicant's invention of claims 8 and 15 provides a solution to a designer's problem of reducing interference effects from various vibrational modes, by aligning the drive and sense frequencies to mitigate detection of these other modes that might otherwise have aligned themselves with one or the other of the drive or sense frequencies.

Bernstein discloses the driving of proof masses along one direction of a plane and the sensing of vibrations of the proof masses outside of the plane. Bernstein does not discuss the vibration of the proof masses in a second direction within the plane, and therefore does not recognize the problems that can arise from the various frequencies modes that can be generated in this direction. Therefore, Bernstein could not suggest or envision applicant's solution to tune the drive frequency and sense frequency to be closely aligned, and away from unwanted vibrational modes, to avoid problems with the frequency responses of those modes of vibration in the second direction within the plane interfering with the desired drive and sense modes.

As a result, applicant respectfully submits that amended claims 8 and 15 are deemed patentably distinct and nonobvious from Bernstein.

Claims 10 and 17 have been canceled. The remaining claims have been amended to properly follow from their amended base claims.

Claims 9 and 11-14 are dependent on claim 8, and therefore include all of the recitations of claim 8, which are not disclosed or suggested by the references. Therefore, claims 9 and 11-14 are deemed allowable as well for the same reasons.

Claims 16 and 18-21 are dependent on claim 15, and therefore include all of the recitations of claim 15, which are not disclosed or suggested by the references. Therefore, claims 16 and 18-21 are deemed allowable as well for the same reasons.

Accordingly, it is respectfully submitted that this rejection has been overcome.

The other references of record have been reviewed and applicant's invention is deemed patentably distinct and nonobvious over each taken alone or in combination.

For the foregoing reasons, applicants respectfully request that the above rejections be withdrawn.

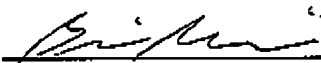
Inasmuch as this amendment distinguishes all of the applicants' claims over the prior art references, for the many reasons indicated above, passing of this case is now believed to be in order. A Notice of Allowance is earnestly solicited.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Authorization is hereby given to charge any fees necessitated by actions taken herein to Deposit Account 50-2117.

Respectfully submitted,

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